ALPSTEINACADEMY

Continuous Professional Development

Seminars & Webinars

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WELCOME


The Alpstein Mountains in Appenzell


Market Place in Gais near Appenzell


Alpstein Clinic in Gais

Principles of Biological Terrain Medicine – Part One

Ralf Oettmeier, MD, Gais / AR, Switzerland

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View out from my window …

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Our modern Life ...

Achieve-ments

- high living standard
- big knowledge
- increased expectancy
- medical proceedings
- multimodal networking

Problems

- environmental problems
- increasing living speed
- increase of chronic diseases and cancer
- crisis of faith? trust and believe

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What means Terrain?

- *Social*: environment in which a person lives and which shapes him
- *Biological*: habitat of plants, animals, micro-organisms and others (in which they thrive, grow, which is vital for them)
- *Chemical*: a characteristic substance environment in which a substance is located or a reaction takes place

source: Wikipedia and German Duden

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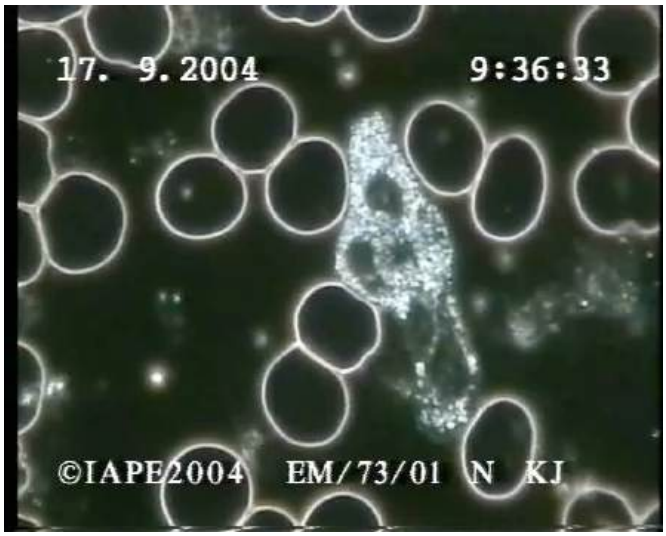
The Wonder of Creation:
Blood Cells in Dark Field Microscopy



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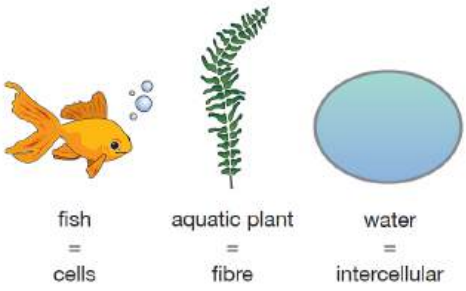
The Aquarium Model



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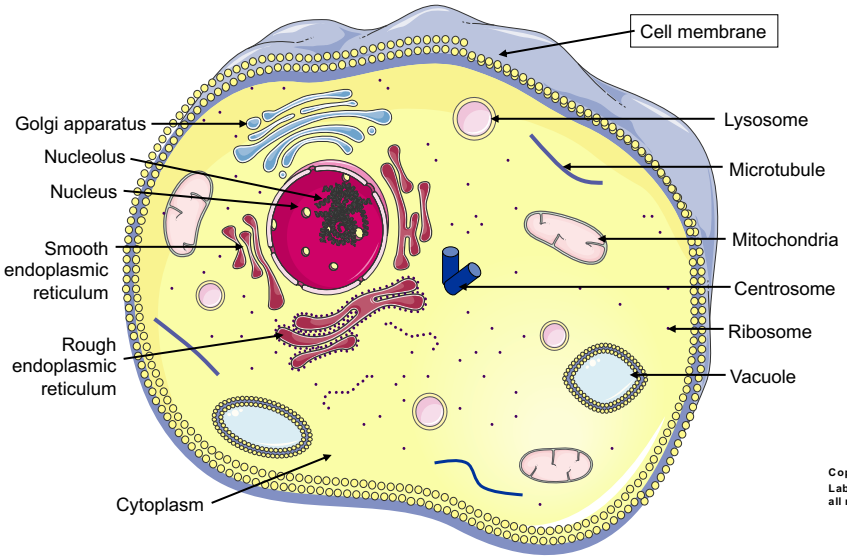
The Cells



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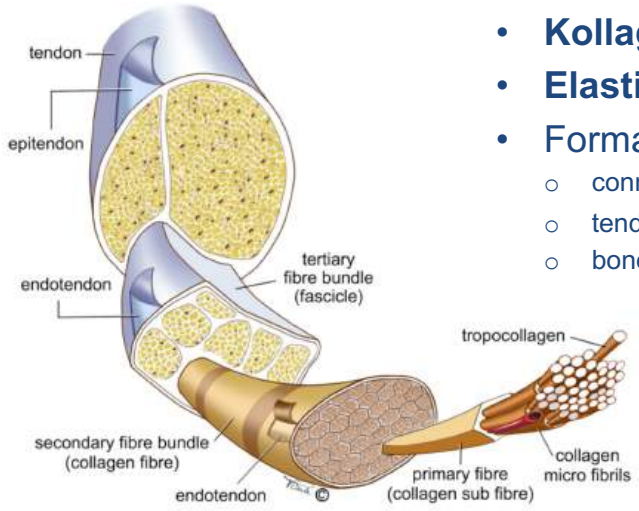
The Fibres



- **Kollagen**
- **Elastin**
- Formation of
  - connective tissue
  - tendons, capsules
  - bone, teeth

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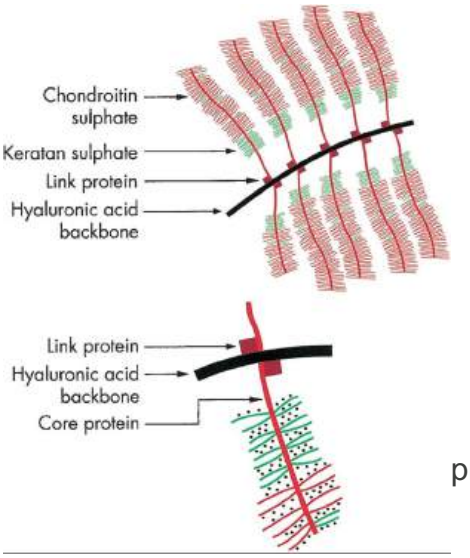
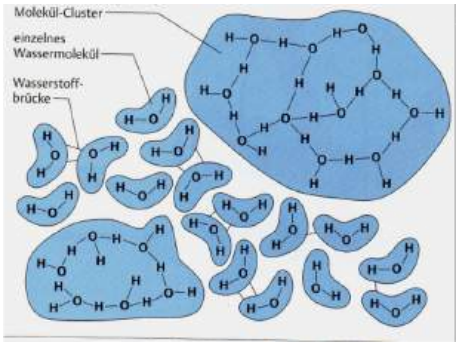
Matrix and Water





water and cluster formations

proteoglycans

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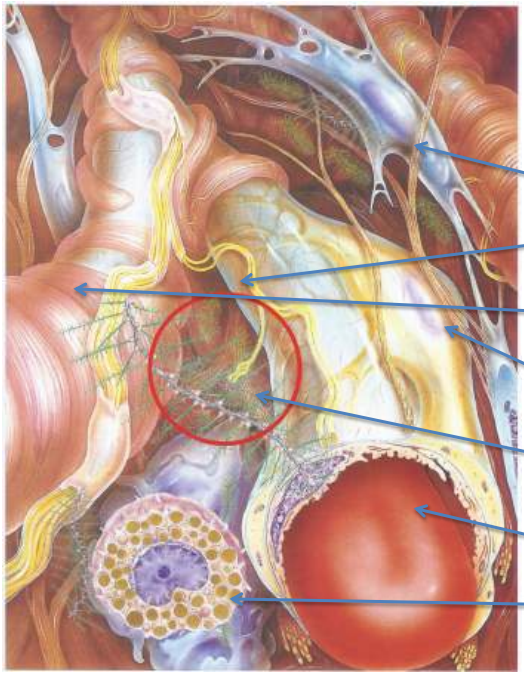
Synopsis of Body Structure



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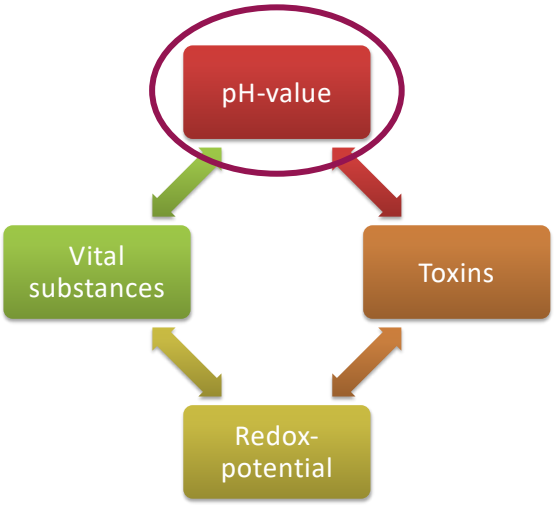
Terrain factors (chemical)

The square of life



1. **Acid-Base Household** (pH-value, base excess, minerals, ammonia)
2. **Oxidative Stress** (free radicals, Nitrothyrosin, Peroxynitrit)
3. **Vital substances** (vitamins, minerals, trace elements, fatty acids, amino acids)
4. **Toxins** (toxic metals, organic toxins, endotoxins incl. emotionals)

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Procedure in practice I

- **Targeted terrain diagnostics**
  - Holistic anamnesis and examination
  - Vital blood microscopy
  - Quantitative analysis of acid base household,
  - Analysis free radicals / oxidative stress and antioxidative capacity
  - Mearesurement of vital substances and toxins

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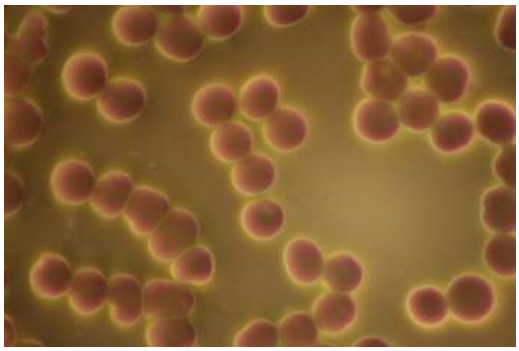
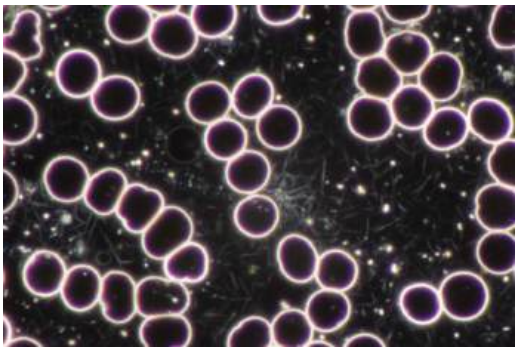
Vital blood microscopy



bright field



dark field

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Example: window frame

from J. Bauer

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Vital blood diagnostics

Routine Laboratory	Dark Field Microscopy
quantitative	qualitative
fixation	fresh
Analysis delayed	Analysis immedia y
static assessment	follow-up ass ment
anonymous	live together h patient
documentation with numbers	documentation with description, fotos & videos

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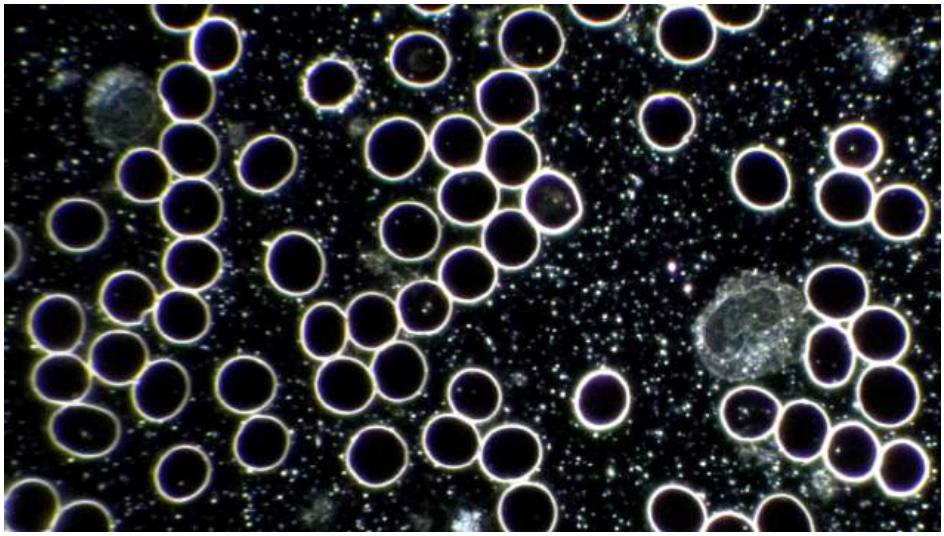
Terrain analysis dark field microscopy



Almost normal picture with high plasmatic activity

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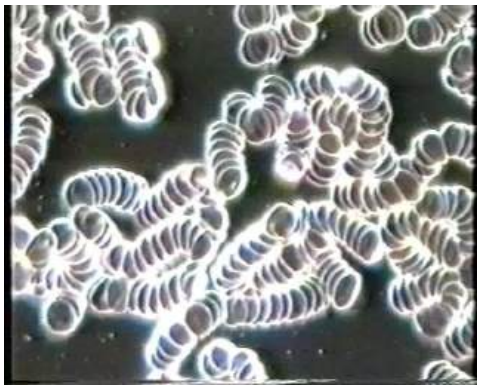
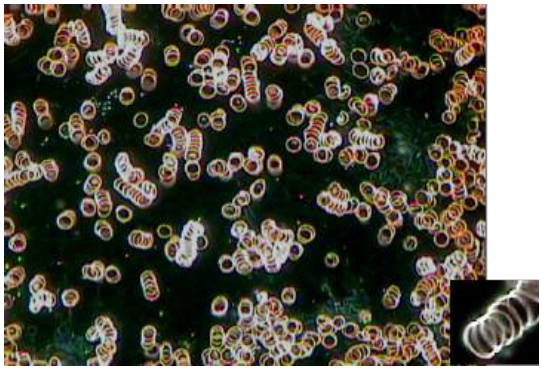
red blood cells: *roll of coins phenomenon / roleau sign*



x 300



x 200

Relevance:

Overacidification, too much protein, dehydration, wireless and electro smog, general sign of stress, inflammation

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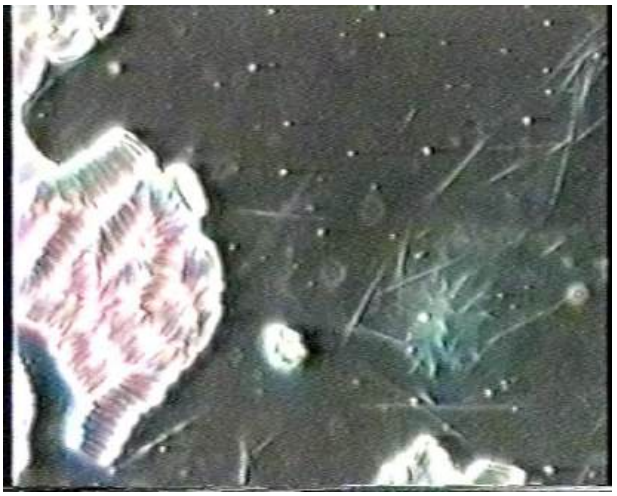
red blood cells: *roll of coins phenomenon / roleau sign*

Extreme overlapping, sign of hyperprotein-ation, steep standing red blood cells



x 300

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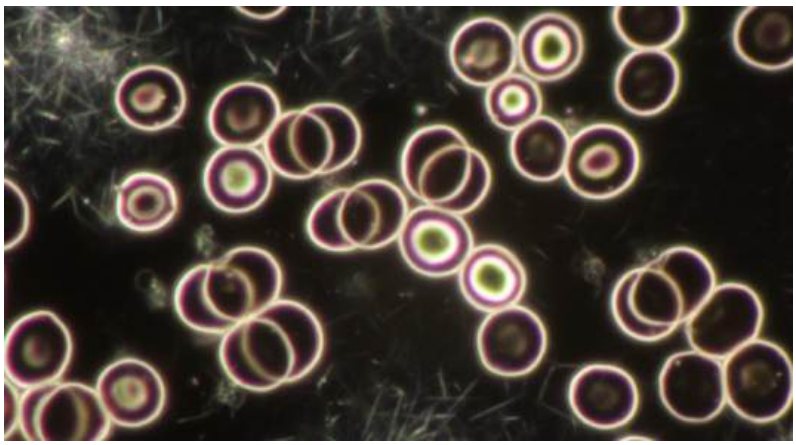
red blood cells: *Indentation-shaped = dent or target cell*



x 800

Relevance:
Dehydration, hypoxia, anaemia (esp. lacj of iron), heavy metal poisoning, strain from organic toxins or medication-induced

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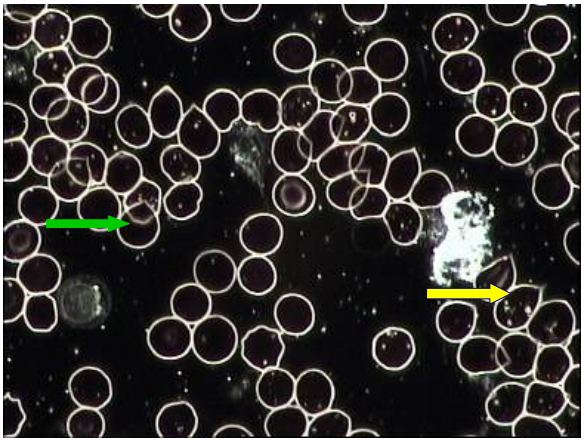
red blood cells: *lemon- or pear-shaped cell*



x 500

true

pseudo

Relevance:

Evidence of hepatic / splenic weakness or disturbance, reduced stability of cell membranes

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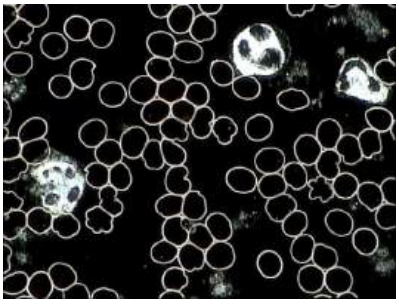
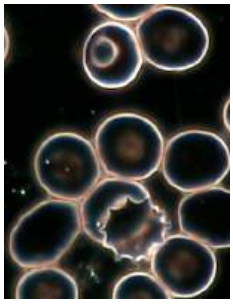
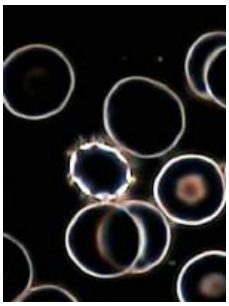
red blood cells: *cog wheel forms / stages of echinocytes*



malberry



cog wheel



ball cutter

Relevance:

- Contraction of cells due to disturbance of acid-base-household, changed Hb-molecule
- Sign of cell instability (also in timing)

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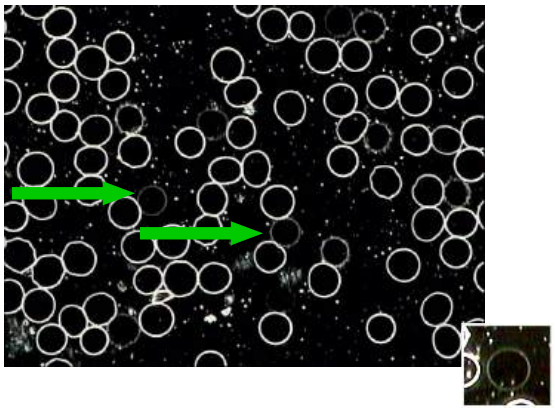
red blood cells:
shadow-/ghost cells

x 400



Relevance:

Insufficiency of cell membrane, lack of vital substance, phenomena of aging, hemolysis due to toxic factors or allergic reactions

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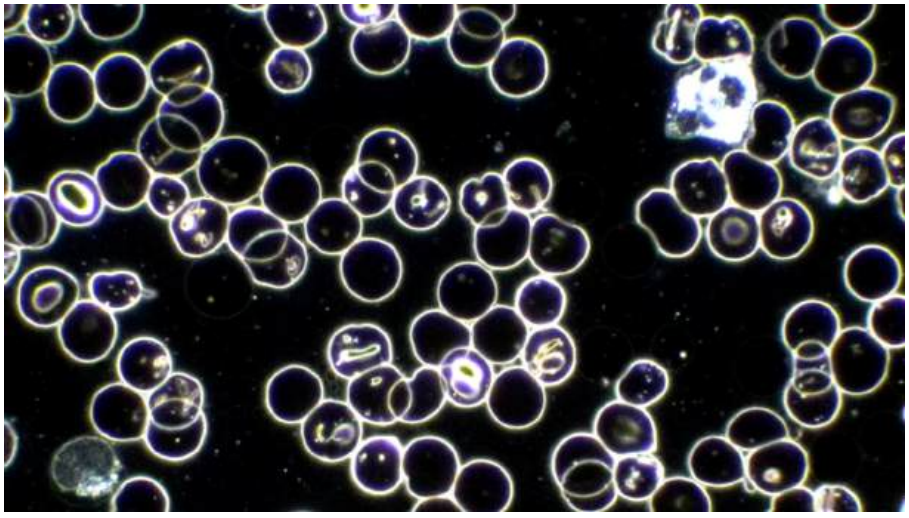
Terrain analysis dark field microscopy



Metastatic Breast cancer ith high-grade liver metastasis, many intra-cellular bacteria, alkalosis

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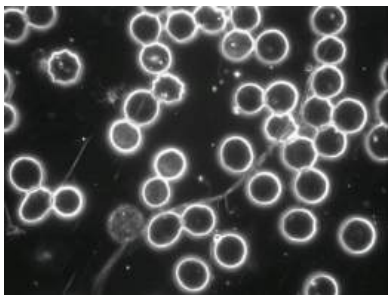
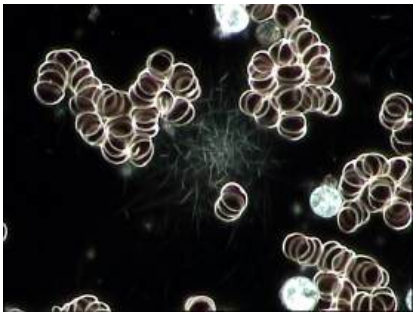
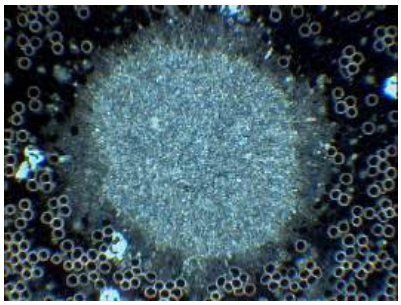
Plasma: *prematurely coagulation / fibrin needles*



fibres of fibrine



nest of fibrine



micro thrombus after Enby

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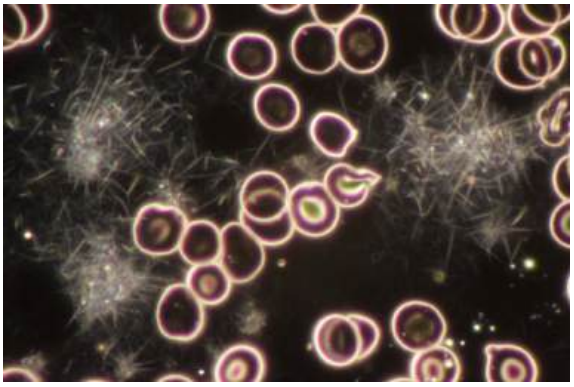
Plasma: *nest of fibrine (spider web)*



x 500

Relevance:

- Premature fibrin fibre development, wound healing, enzymatic processes, Higher danger of thrombosis, signs of degeneration (e.g. arthrosis)
- Higher form of endobiontic development, sign of Mucor racemosus and Aspergillus niger (according to ENDERLEIN)

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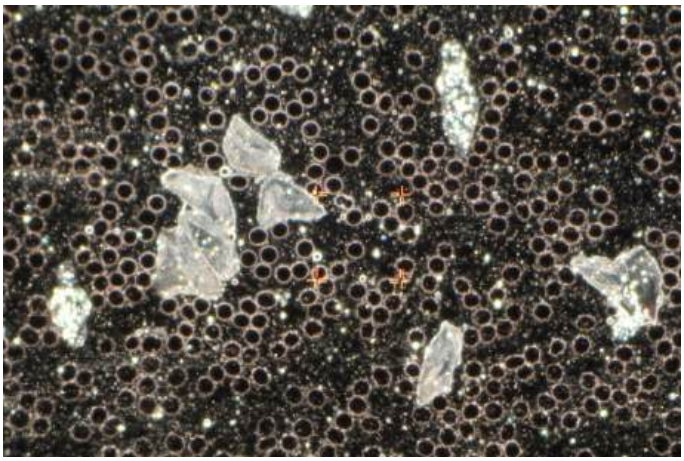
Accumulation of „slags“



21 years old woman, suffering from chronic fatigue and severe constipation, dark field micros-copy, x 250

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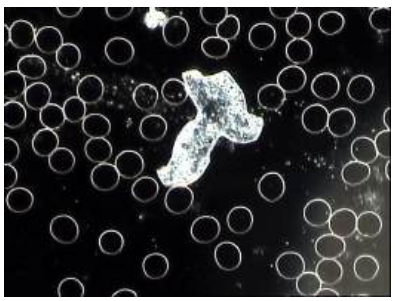
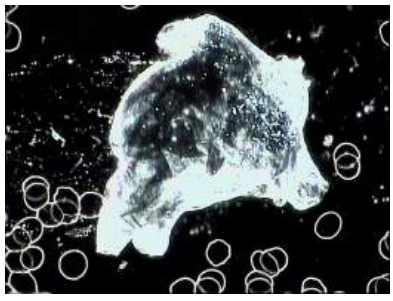
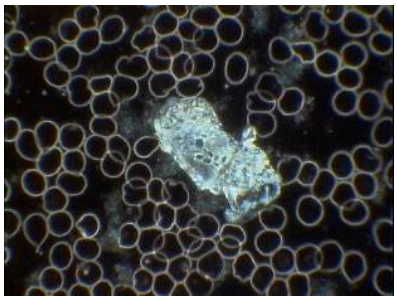
Plasma:

amorphic conglomerates, „slags“







X 250

Relevance:

1. Amorphic conclomerates:

Dry proteins, sign of lymphatic / perivascular slagging

Deposits of metabolic products, Contain especially proteins and cholesterol

Symplasts, Symplastoides according to ENDERLEIN

In appearance mucoid (white) or aspergillic (more dark)

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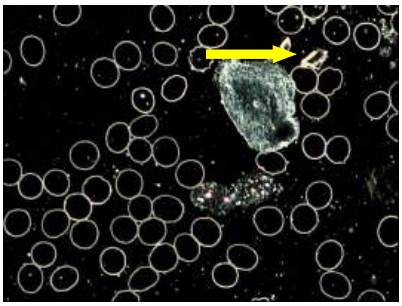
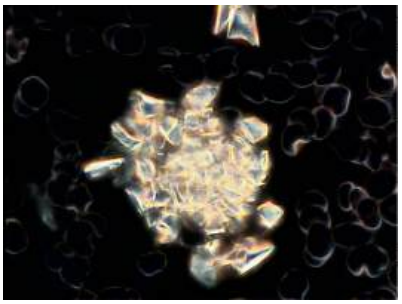
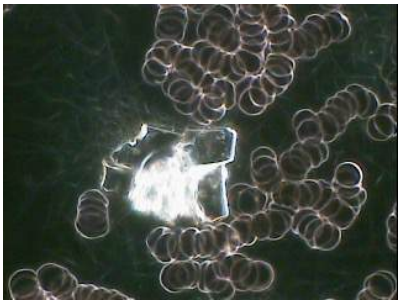
Plasma: *cristals*







X 250

Relevance:

Cristals:

- **Disturbance in acid-base-household** Deposition, effect of neutralisation
- **Metabolic situation of gout or arthrosis** Cristals of uric acid
- After high-dosed Vitamin C Infusion

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Follow-up Assessment after some Hours

- After 3-5 and ev. also after 24 hours
- Evaluation of **Cell Stability**
  - stable
  - partially instable
  - High-grade instable
- **Degree of blood cell degradation / degeneration and parasitism**
  - Ghost-/shadow cells
  - Endobiontic upward trend
- **Plasma activity**

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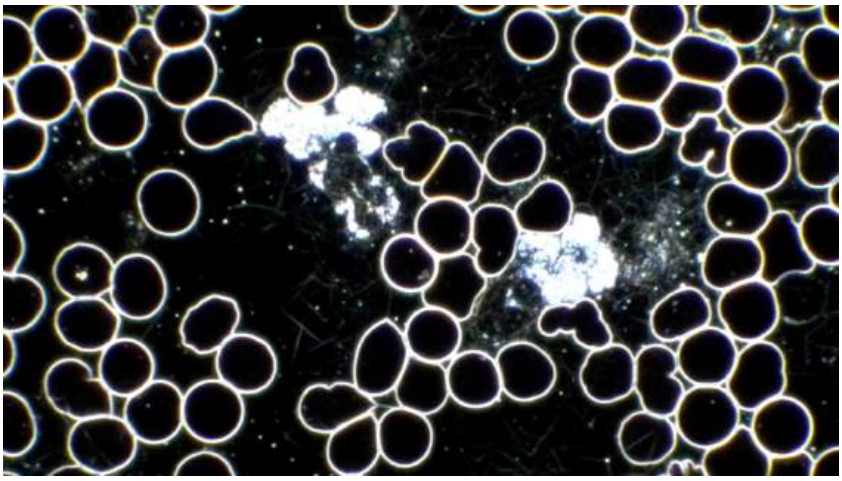
Follow up assessment dark field microscopy



Very stabil, after three hours

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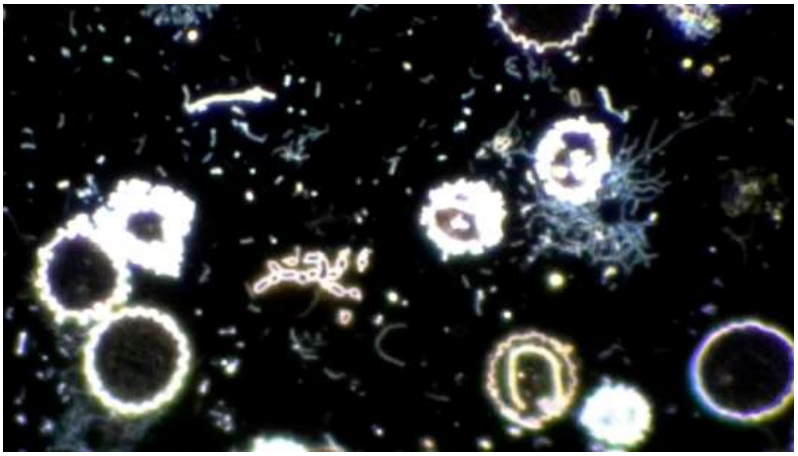
Follow up assessment dark field microscopy



Patient with chronic Lyme disease. In addition to individual adult bacteria and bacterial chains also fungal mycelia are recognizable. Most blood cells are decaying or in the process of degradation (x350)

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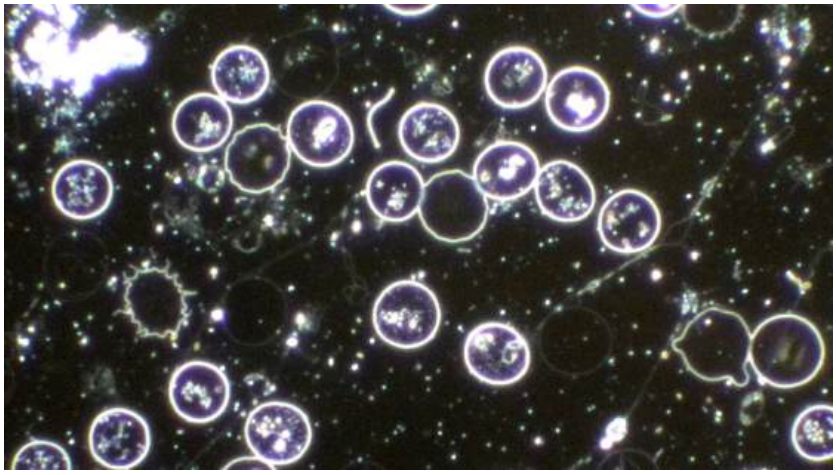
Follow up assessment dark field microscopy



After four hours, many high valencies, ascites, mycels, intracellular bacteria

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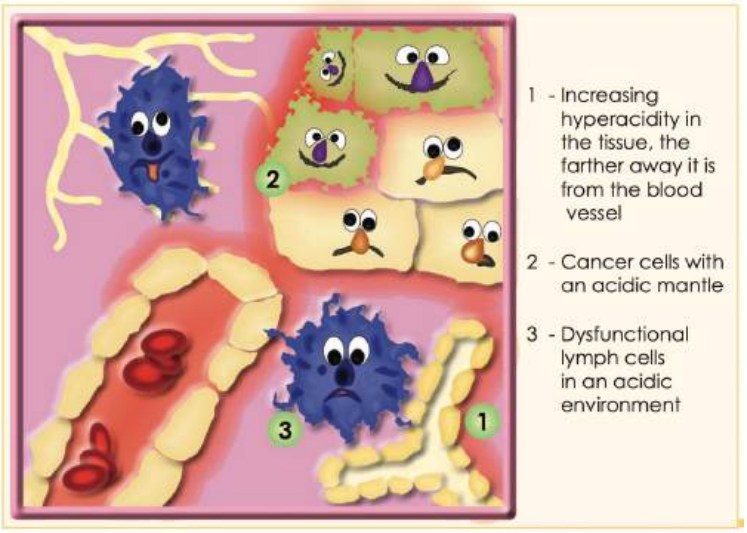
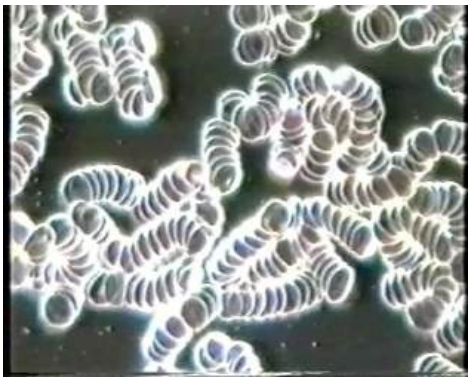
Main causative factors for chronic diseases and cancer



Dysbalanced Acid-Based Household



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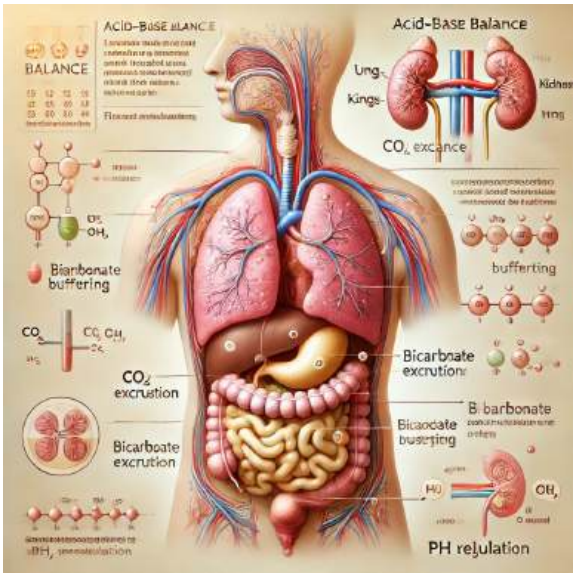
Acid-Base Household

In a "healthy" organism with an "optimally functioning" metabolism, the body's own buffer systems (protein, phosphate, bicarbonate, and elimination buffers) ensure a physiologically predetermined acid-base balance of pH 7.35 – 7.45.



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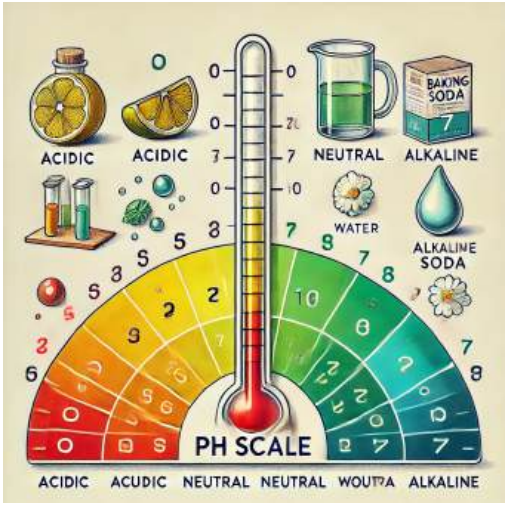
Basics

- **ACID** = Substances that release hydrogen ions (H+) in aqueous solution -> Proton donors
- **BASES** = Substances that release hydroxide ions (OH-) in aqueous solution -> Proton acceptors
- neutral water contains at 22° C: 10^{-7} mol H+ and 10^{-7} mol OH-
- **pH = -log (H^+)**



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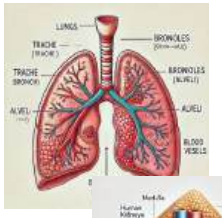
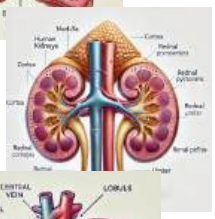
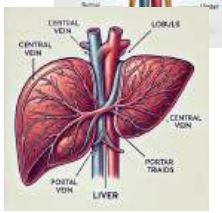
pH Regulation of Organs







- **LUNG**: Disposal of respiratory protons, close cooperation with erythrocytes
- **KIDNEY**: Disposal of non-respiratory protons -> max. capacity: 100 - 400 mmol protons per day
- **LIVER**: Disposal of non-respiratory protons -> max. capacity: 10,000 - 24,000 mmol protons per day (!!)

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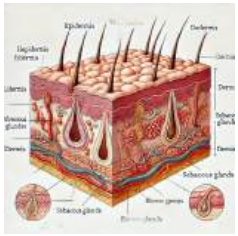
pH Regulation of Organs



- **STOMACH**: Disposal of non-respiratory protons -> often overestimated in overall body significance -> Buffer base is completely consumed during neutralization by bile and pancreatic juice (closed cycle)
- **SKIN**: suitable as an excretory organ for acidic valences (poorly quantifiable)

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Effects of metabolic alkalosis

1. Effects on Cellular Function

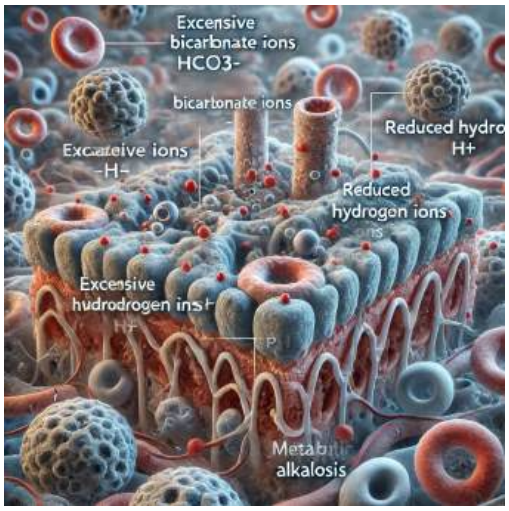
- **Reduced Enzyme Activity:** Many enzymes are pH-sensitive, and alkalosis can impair metabolic pathways.
- **Altered Ion Exchange**
- **Impaired Oxygen Release (Bohr Effect):** Hemoglobin has a higher affinity for oxygen in alkaline conditions, reducing oxygen delivery to tissues.

2. Neurological Symptoms

- **Increased Nervous System Excitability:** Alkalosis enhances nerve conduction, which can lead to:
  - Muscle twitching.
  - Tetany (involuntary muscle contractions).
  - Paresthesia (tingling or numbness, especially in the hands, feet, and face).

3. Cardiovascular Effects

- **Arrhythmias:** Due to electrolyte imbalances (especially hypokalemia and hypocalcemia).
- **Reduced Cardiac Output:** Impaired myocardial contraction due to low calcium levels.



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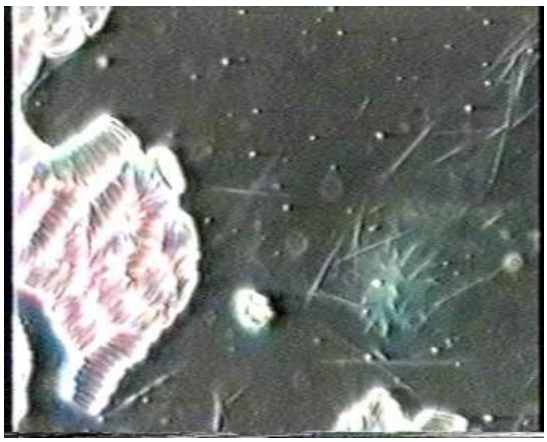
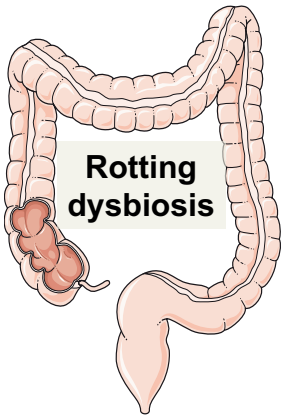
Reason: Too much, non-degraded Protein



Extreme roleaux phenomena, clumping, sludge syndrome

x 500



- Overload and incorrect digestion with animal protein
- Gastric hypoacidity (also with proton pump blockers)
- Hepato- and pancreatopathy
- Dysbiosis with elevated pathogens in the colon (e.g., Clostridium, Enterobactericae, Citrobacter)
- Colon alkalization (pH> 6.5)
- Formation of ammonia and biogenic amines (cadaverine, putrescine)
- Formation of enterotoxins (esp. Citrobacter and Klebsiella)

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Intestinal Check: micro-ecological stool analysis

Intestinal Screen				
water content	▼	72	g/100g	(75-85)
pancreatic elastase	▼	191	µg/g	(>200)
calprotectin	▲	126.4	mg/kg	(<50.0)
proteins	▲	1.3	g/100g	(<1.0)
starch		9.1	g/100g	(9.0-13.0)
sugar content		1.7	g/100g	(<2.5)
Intestinal flora				
pH	▲	7.0		(5.5-6.5)
α-1-antitrypsin	▲	39.7	U/ml	(<27.5)
bile acids		negative		
fatty acids	▲	4.3	g/100g	(<3.5)
secretory IgA	▼	<278	µg/ml	(510-2040)
eosinophil protein X		122	µg/l	(<360)
aerobic bacteria				
E. coli	▲	5e+08		(1e+06-9e+07)
Proteus sp.		<1e+04		(<1e+04)
Klebsiella sp.		<1e+04		(<1e+04)
Enterobacter sp.		<1e+04		(<1e+04)
Hafnia alveii		<1e+04		(<1e+04)
Serratia sp.		<1e+04		(<1e+04)
Providencia sp.		<1e+04		(<1e+04)
Morganella morganii		<1e+04		(<1e+04)
Kluyvera sp.		<1e+04		(<1e+04)
Citrobacter sp.		<1e+04		(<1e+04)
Pseudomonas sp.		<1e+04		(<1e+04)
Enterococcus sp.	▼	<1e+04		(1e+06-9e+07)
anaerobic bacteria				
Bacteroides sp.	▼	<1e+08		(1e+09-9e+11)
Bifidobakterium sp.		2e+09		(1e+09-9e+11)
Lactobacillus sp.		1e+05		(1e+05-9e+07)
Clostridium sp.	▲	1e+07		(<1e+06)

Leaky gut

too much protein

Increased pH

protective flora

Rotting bacteria

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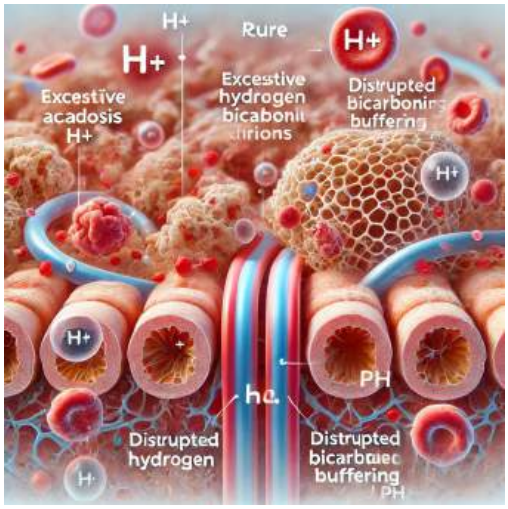
Effects of metabolic acidosis

1. **Cellular Effects:**
   - Disruption of enzymatic functions and protein structure due to lowered pH.
   - Impaired energy production (e.g., reduced ATP generation).
2. **Blood and Vascular Effects:**
   - Reduced oxygen delivery to tissues (Bohr effect: acidic pH reduces hemoglobin's oxygen affinity).
   - Possible vasodilation in some areas and vasoconstriction in others.
3. **Systemic Effects:**
   - Effects on nervous system: Fatigue, confusion, or lethargy.
   - Cardiac effects: Arrhythmias or decreased cardiac output due to altered electrolyte balance.
   - Electrolyte imbalances: Hyperkalemia (excess potassium in the blood).



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Promoter effect of an acidification

Acidification

↓

Inflammation readiness / allergy predisposition ↑

↓

Immune system stress ↑

↓

Mood disorders or acute illnesses ↑

↓

Aging, chronic diseases and cancer ↑

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Symptoms depending from metabolic situation

acidic

- Allergy/inflammation readiness ↑
- Blood pressure ↑
- Blood sugar ↑
- Blood vessels constricted ↑
- Temperature ↑
- and thus the vegetative functions such as
- Performance ↓
- Mood ↓
- Sleep behavior ↓

alkaline

- Allergy/inflammation readiness ↓
- Blood pressure ↓
- Blood sugar ↓
- Blood vessels dilated
- Temperature ↓
- and thus the vegetative functions such as
- Performance ↑
- Mood ↑
- Sleep behavior ↑

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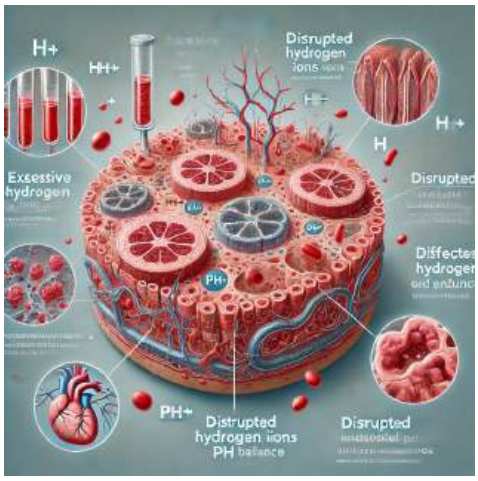
More typical symptoms of acidosis

- Allergy readiness ↑
- Apathy
- Burping (sour)
- Discharge ↑
- Flatulence
- Diarrhea
- Limb pain
- Skin problems
- Infection tendency ↑
- Concentration disorders
- Menstruation ↑
- Sweat odor ↑ (armpits, feet)
- Mood swings
- Constipation



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Typical deposits of acidity

- Age spots
- Arteriosclerosis
- Bladder, gallbladder, kidney stones
- Celulitis
- Fibroma, Lipoma, Myoma
- Uric acid crystals (gout, rheumatism)
- Lymphedema
- Myogeloses
- Warts
- Cysts

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Lifestyle and „producers of acidity“

- Lack of exercise
- biogenic amines (from protein metabolism)
- Electrosmog
- Cultural deficits in eating habits
- Fluid intake deficits
- Fusel alcohols (from carbohydrate metabolism)
- Fermentation acids (from fat metabolism)
- Interferring Fields
- Medications (allopathic)
- Mycotoxins
- Food additives
- Nicotine
- Operations
- Estrés
- Sport (in excess)
- Traumas
- Overweight
- Environmental toxins

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Where do which acids come from?

- **Acetylsalicylic acid**: from painkillers
- **Formic acid**: from artificial sweeteners
- **Acetic acid:** from isolated sugar and white flour products
- **Tannic acid:** from coffee beans, black tea, wine
- **Uric acid:** from stress, physical over- lactic acid/ exertion Hydrochloric acid
- **Carbonic acid:** from drinks, lack of exercise
- **Oxalic acid:** from cocoa, chocolate, spinach
- **Phosphoric acid:** from processed meats, artificial drinks
- **Nitric acid:** from cured meat and sausage products
- **Sulfuric acid:** from meat, sausage, cheese, eggs

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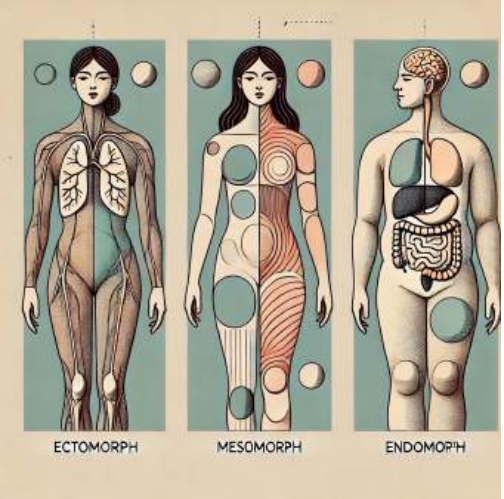
Three types of constitutions

- The Structure Destroyer
- The Eleminator
- The Depositer



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The Structure Destroyer …

Acids and pollutants corrode and demineralize the organism (-itis, -osis)

- Arthritis, -ose
- Joint capsule tears
- Disc damage
- Tendon tears
- Inflamed tendons, tendon sheaths
- Muscle fiber tears
- Inguinal hernias
- Bladder infection
- Tonsillitis
- Diabetes
- Heart attack
- Stroke

- Connective tissue weakness
- Osteoporosis
- Caries
- Tooth loss
- Varicose veins, spider veins
- brittle fingernails
- Hair loss
- Accelerated skin aging
- Neurodermatitis
- Gastritis
- Stomach ulcers

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The Eleminator…

Skin and mucous membranes become active as excretory organs.

- allergic skin reactions
- oily skin and hair
- Scaliness
- blemished skin and pimples
- Eczema
- Acne
- Neurodermatitis
- Herpes (labialis, genitalis, zoster)
- Warts
- Psoriasis

- excessive sweating (armpits, feet, hot flashes)
- Mycosis
- increased menstruation, discharge
- congested airways (sinuses)
- Hemorrhoids
- Heartburn
- Reflux
- Ulcus cruris

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The Depositer …

Acids and pollutants have accumulated (persistent problem areas)

- Kidney stones
- Bladder stones
- Gallstones
- Gout
- Rheuma
- Arteriosclerosis
- Cataract
- Cellulitis

- Age spots
- Payment
- Fibromyalgia
- Circulatory disorders (hands, feet)
- Warts
- Cysts

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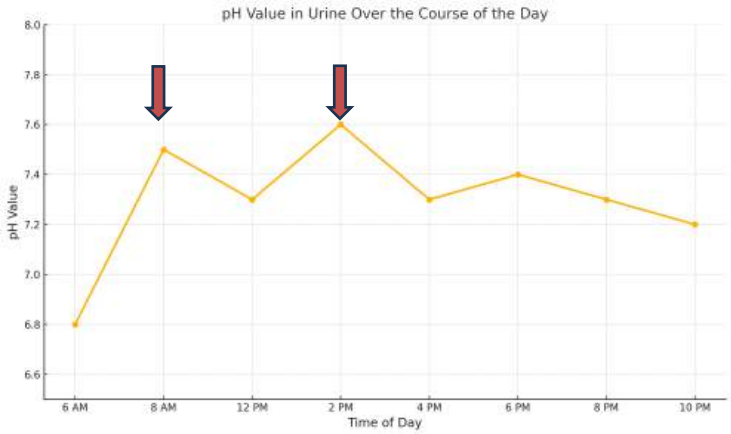
pH measurement in urine



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arterial Blood Gas Analysis (aBGA)

SIEMENS Healthineers epoc

Example of compensated metabolic acidosis

Analyt	Ergebnis	Referenzbereich	Kritischer Bereich	Darstellbarer Bereich	Status
pH	7,446	7,350 - 7,450	5,500 - 9,000	6,500 - 8,000	
pCO2	26,7 mmHg	35,0 - 48,0	4,0 - 251,0	5,0 - 250,0	Niedrig
pO2	68,9 mmHg	83,0 - 108,0	4,0 - 751,0	5,0 - 750,0	Niedrig
Na+	126 mmol/L	138 - 146	84 - 181	85 - 180	Niedrig
K+	4,2 mmol/L	3,5 - 4,5	0,5 - 13,0	1,5 - 12,0	
Cl-	95 mmol/L	98 - 107	64 - 141	65 - 140	Niedrig
Ca++	1,15 mmol/L	1,15 - 1,33	0,00 - 5,00	0,25 - 4,00	
Glu	124 mg/dL	74 - 100	19 - 701	20 - 700	Hoch
Lac	2,18 mmol/L	0,36 - 0,75	0,00 - 21,00	0,30 - 20,00	Hoch
Crea	54 µmol/L	45 - 105	0 - 1414	27 - 1326	
Hct	48 %	38 - 51	9 - 76	10 - 75	
cHgb	16,4 g/dL	12,0 - 17,0	2,3 - 26,0	3,3 - 25,0	
cHCO3-	18,4 mmol/L	21,0 - 28,0	0,0 - 86,0	1,0 - 85,0	Niedrig
cTCO2	19,2 mmol/L	22,0 - 29,0	4,0 - 51,0	5,0 - 50,0	Niedrig
BE(ecf)	-5,7 mmol/L	-2,0 - 3,0	-31,0 - 31,0	-30,0 - 30,0	Niedrig
BE(b)	-3,9 mmol/L	-2,0 - 3,0	-31,0 - 31,0	-30,0 - 30,0	Niedrig
cSO2	94,7 %	94,0 - 98,0	-1,0 - 101,0	0,0 - 100,0	
AGapK	17 mmol/L	10 - 20	-11 - 100	-10 - 99	
AGap	13 mmol/L	7 - 16	-15 - 96	-14 - 95	

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arterial Blood Gas Analysis (aBGA)

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EPOC System

(Fa. Siemens)

Example of metabolic alkalosis

Analyte	Result		Reference range	Critical range	Reportable range	Status
pH	7.488		7.350 - 7.450	5.500 - 9.000	6.500 - 8.000	High
pCO2	32.8	mmHg	35.0 - 48.0	4.0 - 251.0	5.0 - 250.0	Low
pO2	70.3	mmHg	83.0 - 108.0	4.0 - 751.0	5.0 - 750.0	Low
Na+	135	mmol/L	138 - 146	84 - 181	85 - 180	Low
K+	4.9	mmol/L	3.5 - 4.5	0.5 - 13.0	1.5 - 12.0	High
Cl-	100	mmol/L	98 - 107	64 - 141	65 - 140	
Ca++	1.17	mmol/L	1.15 - 1.33	0.00 - 5.00	0.25 - 4.00	
Glu	7.9	mmol/L	4.1 - 5.5	1.0 - 38.6	1.1 - 38.5	High
Lac	3.46	mmol/L	0.56 - 1.39	0.00 - 21.00	0.30 - 20.00	High
Crea	0.88	mg/dL	0.51 - 1.19	0.00 - 16.00	0.30 - 15.00	
Hct	36	%	38 - 51	9 - 76	10 - 75	Low
cHgb	12.2	g/dL	12.0 - 17.0	2.3 - 26.0	3.3 - 25.0	
cHCO3-	24.9	mmol/L	21.0 - 28.0	0.0 - 86.0	1.0 - 85.0	
cTCO2	25.9	mmol/L	22.0 - 29.0	4.0 - 51.0	5.0 - 50.0	
BE(ecf)	1.6	mmol/L	-2.0 - 3.0	-31.0 - 31.0	-30.0 - 30.0	
BE(b)	1.9	mmol/L	-2.0 - 3.0	-31.0 - 31.0	-30.0 - 30.0	
cSO2	95.3	%	94.0 - 98.0	-1.0 - 101.0	0.0 - 100.0	
AGap	10	mmol/L	7 - 16	-15 - 96	-14 - 95	

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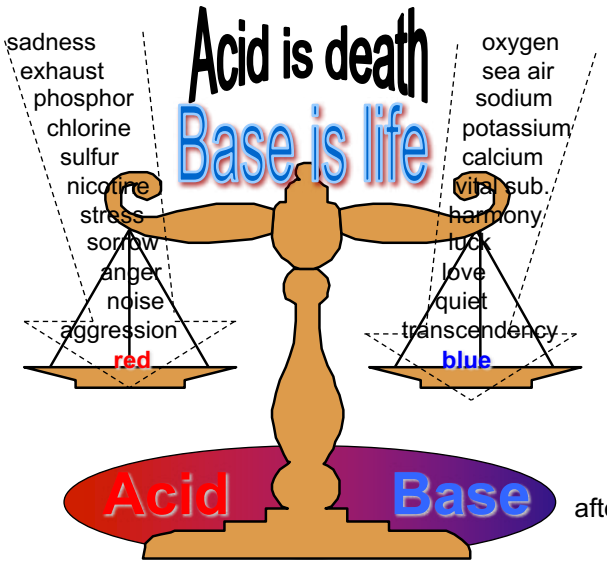
Acid Base Balancing

alkaline bath



after Dr. Beck

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As "base producers" act

- Base preparations (in citrate form without sodium and bicarbonate)
- Bitter compound extracts
- alkaline-rich diet (4:1)
- alkaline minerals (calcium, potassium, magnesium)
- Procaine base infusions (interval-based, needs-adjusted)
- ProcCluster capsules/tablets/cream

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Alkaline sources from food

- Vegetables
- Herbs
- Potatoes (salted, boiled potatoes)
- Herbal teas
- Food (lacto-fermented)
- Fruit (unsweetened)
- Mushrooms
- Salad
- Soy products
- Dried fruit (unsulfured)

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Increase the supply of bases or more frequently eliminate acids using

- alkaline-rich diet (4:1)
- drink enough and the right things
- daily to periodically supply "base producers"
- pay attention to regular digestion without laxatives
- significantly reduce overweight
- regularly "fast" (intermittent fasting, fasting cures)
- Activation of the excretory organs
- Inlets
- Colon hydrotherapy

- Liver compress
- Endurance sports (without stress)
- Sweating (sauna, infrared cabin)
- Alkaline baths
- Alkaline socks
- Sole reflex patches
- Reducing or avoiding stimulants/allopathic medications
- Reducing media consumption
- pay attention to sufficient and restful sleep

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Important!

Milieu is everything, Microbe is nothing.

Dr. Antoine Bechamp
(Colleague of Dr. L. Pasteur)

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Continuous Professional Development

Announcement

More about Terrain Factors:

- **Part two: oxidative Stress**
- **Part three: Toxicity**

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